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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,286	09/25/2001	Ludovic Noirie	Q66337	5330

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EXAMINER
PAYNE, DAVID C

ART UNIT	PAPER NUMBER
2633	4

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/961,286

Applicant(s)

NOIRIE ET AL.

Examiner

David C. Payne

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/25/01 & 2/21/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because the applicant's invention shown in Figure 2 of the drawings does not clearly indicate where input ports p1, q1, r1 and output ports p2, p2, and r2 are located and accordingly it is difficult to correlate a respective p1 wavelengths with p1 input port. Similarly this association between the numbers of respective wavelengths to output port assignment is difficult for the remaining input and output ports as claimed. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **wavelength converters** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to

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the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant claims "... and/or bond to group of bands multiplexers." It is believe that the applicant made a typographical error.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

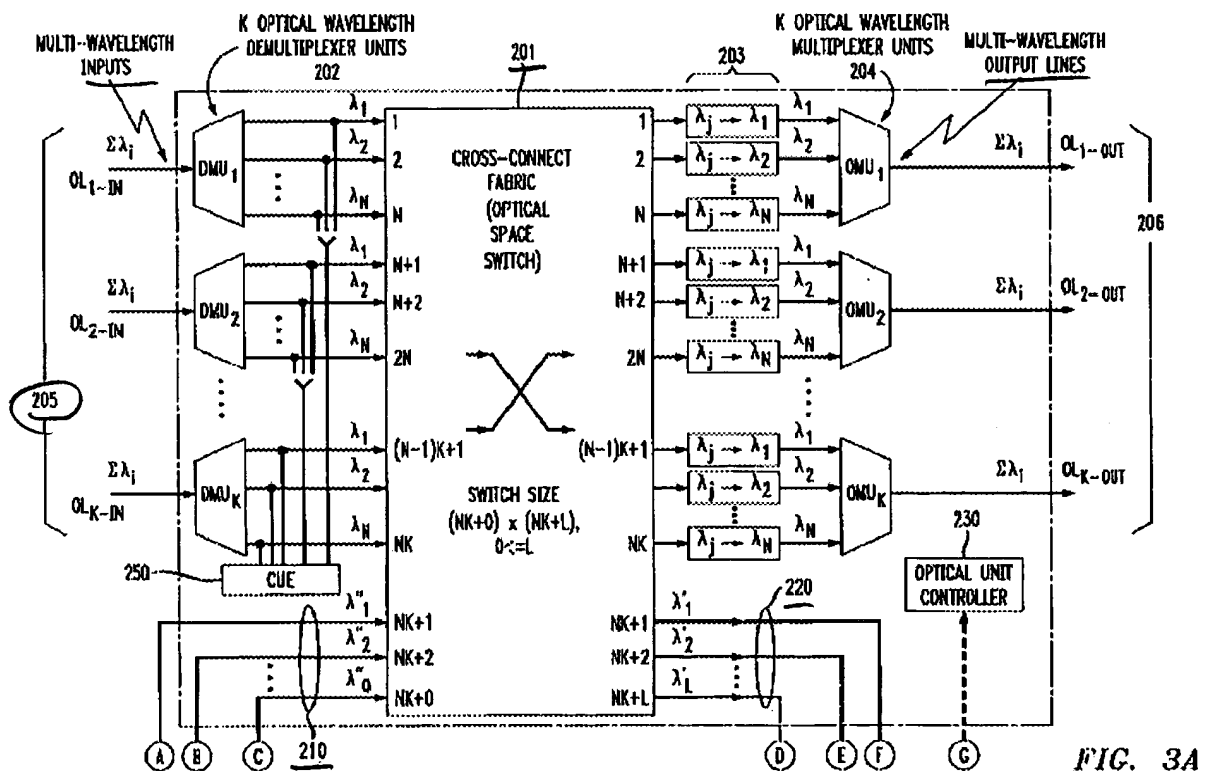
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 and 2 (insofar as it is understood based on the 112 2nd rejection) are rejected under 35 U.S.C. 102(e) as being anticipated by Fatehi et al. US 6,512,612 B1 (Fatehi).

Regarding claim 1, Fatehi disclosed



An optical switch (201 of Figure 3A) for an optical network using wavelength division multiplexing, said switch including: p1 input ports (NK+0 (C), NK+1 (B), and NK+2 (A) input ports shown in area 210 of element 201, Figure 3A) receiving p1 respective wavelengths ($\lambda''_0, \lambda''_1, \lambda''_2$), p2 output ports (NK+1, NK+2, and NK+L input ports shown in

element 201 of Figure 3A), and first switching means (see e.g., col./line(s): 5/10-16 switching of wavelengths λ''_0 at input port (A) to λ'_1 at output port (F)) for switching the wavelengths received at said p1 input ports selectively to said p2 output ports,

and q1 input ports (OL_{1-IN} , OL_{2-IN} ... OL_{K-IN} input ports shown in area 205 of Figure 3A) receiving q1 respective bands of wavelengths ($\Sigma\lambda_i$), q2 output ports (OL_{1-OUT} , OL_{2-OUT} ... OL_{K-OUT} output ports shown in area 206 of Figure 3A), and second switching means (see e.g., col./line(s): 4/65-67, 5/1-5 switching of wavelengths $\Sigma\lambda_i$ at input port OL_{1-IN} to $\Sigma\lambda_j$ at output port OL_{1-OUT}) for switching the bands of wavelengths received at said q1 input ports selectively to said q2 output ports,

said switch including a first, and second switching means (previously shown in Fatehi), which consist of a single switching matrix (201 of Figure 3A) able to couple any of said p1+q1 input ports to any of said p2+q2 output ports.

Regarding claim 2, Fatehi further disclosed including an internal rearrangement area including, on the one hand, band to wavelength demultiplexers (DMU_1 to DMU_K (202) of Figure 3A), and, on the other hand, a set of wavelength to band multiplexers (OMU_1 to OMU_K (204) of Figure 3A).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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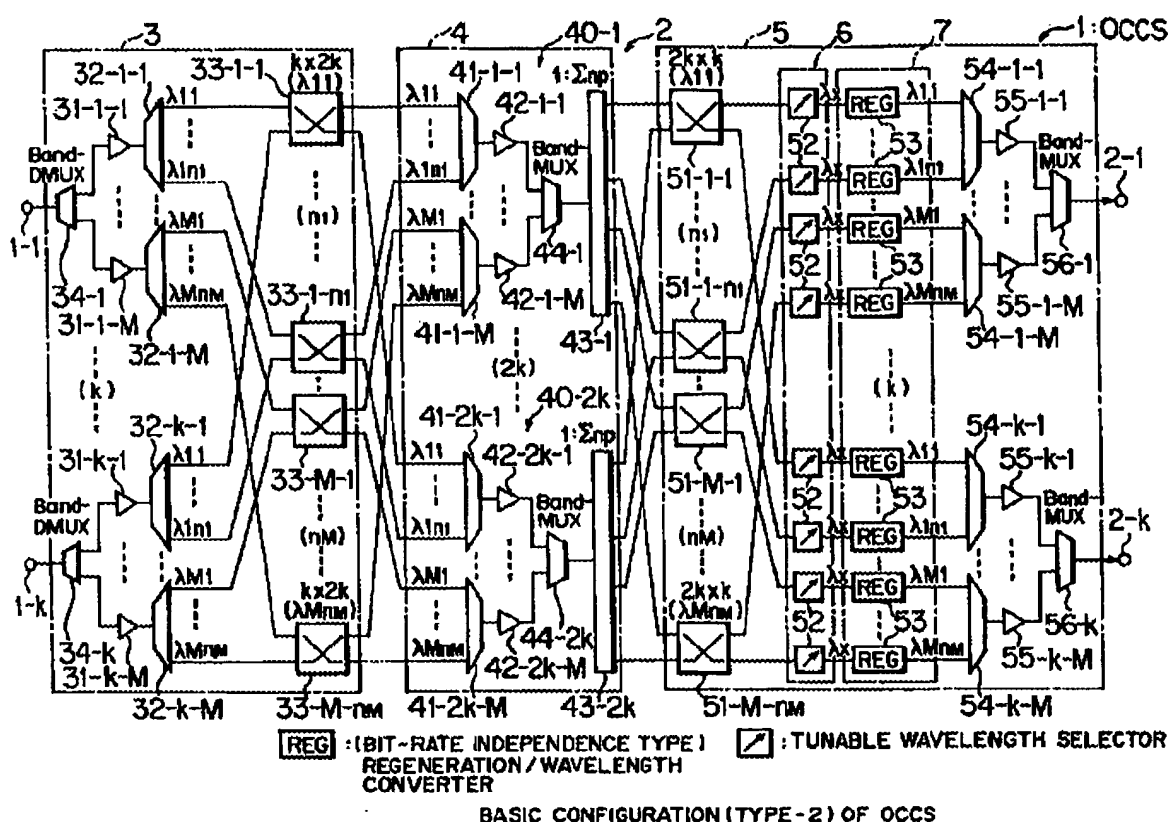
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3 and 4 (insofar as they are understood based on the 112 2nd rejection) are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi et al. US 6,512,612 B1 (Fatehi) in view of Tsuyama US 6404940 B1 (Tsuyama).

Regarding claim 3, Fatehi disclosed the optical switch as claimed above, but does not disclose a switch including an input interface consisting of a set of group of bands to band demultiplexers and/or band to wavelength demultiplexers and an output interface consisting of a set of wavelength to band multiplexers and/or band to group of bands multiplexers.

Tsuyama disclosed

FIG 2



a switch including an input interface consisting of a set of band-to-band demultiplexers (34-1 to 34-K of Figure 2, see col./line: 24/51-62) and an output interface consisting of a set of band to groups of bands multiplexers (56-1 to 56-K, see col./line: 25/5-15). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Tsuyama band-to-band demultiplexers at the input of the Fatehi switch/router apparatus and the band to groups of bands multiplexers at the output of Fatehi switch/router apparatus in order to create smaller bands of wavelengths that can be amplified given the severity of having a single amplifier that would need to work across all wavelengths and that amplification is

typically required to boost signals after traversing a switching system.

Regarding claim 4,

the modified invention of Fatehi and Tsuyama further disclosed an output interface further includes wavelength converters (see Fatehi 203 of Figure 3A).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Dcp

D. Payne
Patent Examiner
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